

CLAIMS

I/We claim:

- [c1] 1. A computer-implemented method for handling incoming aircraft operation instructions, comprising:
- receiving from a source off-board an aircraft an instruction for a change in a characteristic of the aircraft during operation;
 - automatically determining whether or not at least a portion of the instruction is to be implemented once a condition is met;
 - if at least a portion of the instruction is to be implemented once a condition is met, automatically carrying out a first course of action; and
 - if implementation of at least a portion of the instruction is not predicated upon fulfilling a condition, automatically carrying out a second course of action different than the first course of action.
- [c2] 2. The method of claim 1 wherein carrying out a first course of action includes:
- determining what condition must be met before at least a portion of the instruction is to be implemented; and
 - presenting an indication to an operator of the aircraft before the condition is met, after the condition is met, or both before and after the condition is met.
- [c3] 3. The method of claim 1 wherein the instruction includes a condition portion and a directive portion, the condition portion corresponding to a condition that must be met before the directive portion is implemented, and wherein carrying out a first course of action includes:
- identifying the condition portion; and

presenting an indication to an operator of the aircraft proximate to a time when the condition is met, after the condition is met, or both proximate to a time when the condition is met and after the condition is met.

[c4] 4. The method of claim 1 wherein receiving an instruction for a change in a characteristic of the aircraft includes receiving from air traffic control an instruction for a change in a flight path of the aircraft.

[c5] 5. The method of claim 1 wherein receiving an instruction for a change in a characteristic of the aircraft includes receiving an instruction for changing at least one of a direction, altitude and speed of the aircraft.

[c6] 6. The method of claim 1 wherein receiving an instruction for a change in a characteristic of the aircraft includes receiving an instruction for simultaneously changing at least two of a direction, altitude and speed of the aircraft.

[c7] 7. The method of claim 1 wherein receiving an instruction for a change in a characteristic of the aircraft includes receiving an instruction for a change in a radio frequency to which a radio of the aircraft is tuned.

[c8] 8. The method of claim 1 wherein carrying out a second course of action includes displaying an indication to an operator of the aircraft at least approximately immediately upon determining that implementing at least a portion of the instruction is not predicated upon fulfilling a condition.

[c9] 9. The method of claim 1 wherein receiving an instruction for a change in a characteristic of the aircraft includes receiving an instruction for changing a characteristic of the aircraft in a first manner when a first condition is met and

changing a characteristic of the aircraft in a second manner when a second condition is met.

[c10] 10. The method of claim 1 wherein receiving an instruction for a change in a characteristic of the aircraft includes receiving an instruction having a first portion to be implemented upon meeting a first condition and a second portion to be implemented upon meeting a second condition.

[c11] 11. The method of claim 1 wherein receiving an instruction for a change in a characteristic of the aircraft includes receiving an instruction to be implemented when both a first condition and a second condition are met.

[c12] 12. The method of claim 1 wherein receiving an instruction includes receiving an instruction having a first portion to be implemented once a condition is met and a second portion for which implementation is not predicated upon fulfilling a condition is met, and wherein the method further comprises carrying out the first course of action for the first portion and the second course of action for the second portion.

[c13] 13. A system for handling incoming aircraft operation instructions, comprising:
 a receiver portion configured to receive from a source off-board an aircraft an instruction for a change in a characteristic of the aircraft during operation;
 a discriminator portion configured to automatically determine whether or not at least a portion of the instruction is to be implemented once a condition is met;
 a conditional instruction handler configured to automatically carry out a first course of action if at least a portion of the instruction is to be implemented once a condition is met; and

a non-conditional instruction handler configured to automatically carry out a second course of action different than the first course of action if implementation of at least a portion of the instruction is not predicated upon fulfilling a condition.

[c14] 14. The system of claim 13 wherein the conditional instruction handler is configured to:

determine what condition must be met before at least a portion of the instruction is to be implemented; and
direct the presentation of an indication to an operator of the aircraft before the condition is met, after the condition is met, or both before and after the condition is met.

[c15] 15. The system of claim 13 wherein the receiver portion is configured to receive an instruction for a change in a flight path of the aircraft from air traffic control.

[c16] 16. The system of claim 13 wherein the receiver portion is configured to receive an instruction for a change in a radio frequency to which a radio of the aircraft is tuned.

[c17] 17. The system of claim 13 wherein the non-conditional instruction handler is configured to direct a presentation of an indication to an operator of the aircraft at least approximately immediately upon determining that the instruction is not predicated upon fulfilling a condition.

[c18] 18. The system of claim 13, further comprising the aircraft, and wherein the aircraft includes a flight deck positioned to house the operator.

- [c19] 19. A computer-implemented method for handling incoming aircraft operation instructions, comprising
- receiving from a source off-board the aircraft an instruction for a change in
- a characteristic of the aircraft during operation; and
- if at least a portion of the instruction is to be implemented once a condition
- is met, directing an indication to an operator of the aircraft before the
- condition is met, or after the condition is met, or both before and
- after the condition is met.
- [c20] 20. The method of claim 19, further comprising automatically
- determining whether or not the instruction is to be implemented once a condition
- is met.
- [c21] 21. The method of claim 19, further comprising displaying the indication
- to the operator.
- [c22] 22. The method of claim 19, further comprising displaying a textual
- indication message to the operator.
- [c23] 23. The method of claim 19 wherein receiving an instruction for a
- change in a characteristic of the aircraft includes receiving an instruction having a
- first portion to be implemented upon meeting a first condition and a second
- portion to be implemented upon meeting a second condition, and wherein
- directing an alert includes directing a first indication proximate to a time before the
- first condition is met, or after the first condition is met, or both before and after the
- first condition is met, and directing a second indication before the second
- condition is met, or after the second condition is met, or both before and after the
- second condition is met.

[c24] 24. The method of claim 19 wherein receiving an instruction for a change in a characteristic of the aircraft includes receiving an instruction to be implemented when both a first condition and a second condition are met.

[c25] 25. A system for handling incoming aircraft operation instructions, comprising:

 a receiver portion configured to receive from a source off-board the aircraft an instruction for a change in a characteristic of the aircraft during operation; and

 an indicating portion configured to direct an indication to an operator of the aircraft if the instruction is to be implemented once a condition is met, the indicating portion being configured to direct the indication to the operator before the condition is met, or after the condition is met, or both before and after the condition is met.

[c26] 26. The system of claim 25, further comprising a discriminator portion configured to determine whether or not the instruction is to be implemented once a condition is met.

[c27] 27. The system of claim 25 wherein the receiver portion is configured to receive an instruction that includes a first portion to be implemented upon meeting a first condition and a second portion to be implemented upon meeting a second condition, and wherein the indicating portion is configured to direct a first indication before, or after, or both before and after the first condition is met, and direct a second indication before, or after, or both before and after the second condition is met.

[c28] 28. The system of claim 25, further comprising the aircraft, and wherein the aircraft includes a flight deck positioned to house the operator, and wherein the altering system includes an alerting device positioned at the flight deck.

- [c29] 29. A computer-implemented method for displaying information corresponding to incoming aircraft operation instructions, comprising:
- receiving from a source off-board the aircraft an instruction for a change in a characteristic of the aircraft during operation, the instruction to be implemented once a condition is met; and
- displaying at a single display location an at least two-dimensional indication of the location of the aircraft and a location at which the condition is expected to be met.
- [c30] 30. The method of claim 29 wherein displaying an at least two-dimensional indication includes displaying an indication of the altitude of the aircraft relative to a first axis, and displaying an indication of a distance relative to a second axis transverse to the first axis.
- [c31] 31. The method of claim 29 wherein displaying an at least two-dimensional indication includes displaying an indication of the aircraft's location relative to two transverse lateral axes.
- [c32] 32. The method of claim 29 wherein displaying a location at which the condition is expected to be met includes displaying a textual indication of an upcoming change in a flight path of the aircraft.
- [c33] 33. The method of claim 29 wherein displaying a location at which the condition is expected to be met includes displaying a graphical indication of the upcoming change in a flight path of the aircraft.

[c34] 34. A system for displaying information corresponding to incoming aircraft operation instructions, comprising:

a receiver portion configured to receive from a source off-board the aircraft an instruction for a change in a characteristic of the aircraft during operation, the instruction to be implemented once a condition is met;
a display portion configured to display at a single display location an at least two-dimensional indication of the location of the aircraft and a location at which the condition is expected to be met; and
a processor portion operatively coupled to the receiver portion and the display portion to transmit signals to the display portion corresponding to the at least two-dimensional indication of the location of the aircraft and the location at which the condition is expected to be met

[c35] 35. The system of claim 34 wherein the processor portion is configured to transmit signals corresponding to an indication of the altitude of the aircraft relative to a first axis, and an indication of a distance traveled by the aircraft relative to a second axis transverse to the first axis.

[c36] 36. The system of claim 34 wherein the processor portion is configured to transmit signals corresponding to an indication of the aircraft's location relative to two transverse lateral axes.

[c37] 37. The system of claim 34 wherein the processor portion is configured to transmit signals corresponding to a textual indication of an upcoming change in a flight path of the aircraft.

[c38] 38. The system of claim 34 wherein the processor portion is configured to transmit signals corresponding to a graphical indication of the upcoming change in a flight path of the aircraft.